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10/532,877

04/28/2005

Zofre Bayram-Hahn

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03/19/2007

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EXAMINER

VO, HAI

ART UNIT

PAPER NUMBER

1771

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/532,877

Applicant(s)

BAYRAM-HAHN ET AL.

Examiner

Hai Vo

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1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) 6-11 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 12-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 04/28/2005
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-5 and 9 in the reply filed on 02/16/2007 is acknowledged. As amended claim 9 is directed to a method claim and thus withdrawn from further consideration as being drawn to a non-elected Group II, claims 6-11. The traversal is on the ground(s) that rejections based on US 6,398,962 have not been yet established. This is not found persuasive because claim 1 is anticipated by US 6,398,962 (see rejections below).

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 01/77660. Cabrera et al (US 6,863,820) will be relied on as an equivalent form of WO 01/77660. Cabrera '820 discloses a monolithic moulding for chromatographic

separation made from a porous inorganic body coated with a fiber reinforced plastic material (column 3, lines 10-25). Accordingly, Cabrera '820 anticipates the claimed subject matter.

5. Claims 2, 3, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/77660 as applied to claim 1 above, and further in view of WO 98/58253. Cabrera et al (US 6,863,820) and Cabrera et al (US 6,398,962) will be relied on as equivalent forms of WO 01/77660 and WO 98/58253 respectively. Cabrera '820 does not specifically disclose a SiO₂ moulding having macropores and mesopores as well as a length, a diameter of a columnar moulding. Cabrera '962, however, discloses a monolithic moulding for chromatographic separation made from a porous shaped SiO₂ body having interconnected macropores and mesopores in the walls of macropores wherein the macropores have an average pore size of greater than 0.1 microns and the mesopores having an average pore size of 2 nm to 100 nm (column 2, lines 20-25). Cabrera '962 teaches that the moulding is columnar and has a diameter of 1 cm or greater and a length of 9.3 cm (column 3, lines 20-22, example A1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a porous inorganic moulding as taught by Cabrera '962 motivated by the desire to provide high flow rates at a moderate operating pressure, thereby achieving improved productivity.
6. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/77660 as applied to claim 1 above, and further in view of Dhingra et al (US 6,054,052). Cabrera '820 does not specifically disclose the flat monolithic sorbent

and its thickness. Dhingra, however, teaches a porous inorganic sorbent in the form of a flat membrane having a thickness 0.02 to 1000 microns, encompassing the claimed range (column 25, lines 1-8; column 24, lines 5-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a porous inorganic monolithic in the form of flat membrane with a thickness as taught by Dhingra because such a thickness is sufficient for the inorganic sorbent in performing the efficiency of the separation.

7. Claims 1, 2, 4, 5, 14, 16, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 838 257. EP '257 discloses a monolithic moulding for chromatographic separation made from a porous inorganic body coated with a polymeric material (column 3, lines 10-25). The porous inorganic body is silica, alumina (column 4, line 4). The coating is styrene/divinylbenzene, methacrylic acid derivatives that are physically adsorbed on the porous silica shaped body (claim 2). The moulding is columnar and has a diameter of 0.254 cm (example 1). Accordingly, EP'257 anticipates the claimed subject matter.
8. Claims 3, 15, and 18 and rejected under 35 U.S.C. 103(a) as being unpatentable over EP 838 257 as applied to claim 1 above, and further in view of WO 98/58253. Cabrera et al (US 6,398,962) will be relied on as an equivalent form of WO 98/58253. EP '257 does not specifically disclose the monolith having macropores and mesopores and its length. Cabrera '962 discloses a monolithic moulding for chromatographic separation made from a porous shaped SiO₂ body having interconnected macropores and mesopores in the walls of macropores wherein the

macropores have an average pore size of greater than 0.1 microns and the mesopores having an average pore size of 2 nm to 100 nm (column 2, lines 20-25). Cabrera '962 discloses that the moulding is columnar, having a diameter of 1 cm or greater and a length of 9.3 cm (column 3, lines 20-22, example A1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the porous monolith of Cabrera '962 for the chromatographic separation motivated by the desire to provide high flow rates at a moderate operating pressure, thereby achieving improved productivity.

9. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 838 257 as applied to claim 1 above, and further in view of Dhingra et al (US 6,054,052). EP'257 does not specifically disclose the flat monolithic sorbent and its thickness. Dhingra, however, teaches a porous inorganic sorbent in the form of a flat membrane having a thickness 0.02 to 1000 microns, encompassing the claimed range (column 25, lines 1-8; column 24, lines 5-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a porous inorganic monolithic in the form of flat membrane with a thickness as taught by Dhingra because such a thickness is sufficient for the inorganic sorbent in performing the efficiency of the separation.
10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 838 257 as applied to claim 1 above, and further in view of Li et al (US 7,125,448). EP' 257 does not specifically disclose the monolithic being modified with a copolymer of tetraalkoxysilane and methyltrialoxysilane. Li, however, teaches a silica monolith

having surface modified with at least two silanes wherein one silane is an endcapping silane (abstract, column 16, lines 25-35, and table 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the porous silica monolith having surface treated with the silanes as described by Li motivated by the desire to retain polar analytes reproducibly under highly aqueous conditions.

11. Claims 1-5, and 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 98/58253. Cabrera et al (US 6,398,962) will be relied on as an equivalent form of WO 98/58253. Cabrera '962 discloses a monolithic moulding for chromatographic separation made from a porous shaped SiO₂ body having interconnected macropores and mesopores in the walls of macropores wherein the macropores have an average pore size of greater than 0.1 microns and the mesopores having an average pore size of 2 nm to 100 nm (column 2, lines 20-25). The moulding is coated with adsorption polymers such as styrene/divinylbenzene, methacrylic acid derivatives (column 4, lines 20-25). The moulding is columnar and has a diameter of 1 cm or greater (column 3, lines 20-22). The moulding has a length of 9.3 cm (example A1). Accordingly, Cabrera '962 anticipates the claimed subject matter.
12. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/58253 as applied to claim 1 above, and further in view of Dhingra et al (US 6,054,052). Cabrera '962 does not specifically disclose the flat monolithic sorbent and its thickness. Dhingra, however, teaches a porous inorganic sorbent in the form of a flat membrane having a thickness 0.02 to 1000 microns, encompassing the

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claimed range (column 25, lines 1-8; column 24, lines 5-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a porous inorganic monolithic in the form of flat membrane with a thickness as taught by Dhingra because such a thickness is sufficient for the inorganic sorbent in performing the efficiency of the separation.

13. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/58253 as applied to claim 1 above, and further in view of Li et al (US 7,125,448). Cabrera '962 does not specifically disclose the monolithic being modified with a copolymer of tetraalkoxysilane and methyltrialoxysilane. Li, however, teaches a silica monolith having surface modified with at least two silanes wherein one silane is an endcapping silane (abstract, column 16, lines 25-35, and table 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the porous silica monolith having surface treated with the silanes as described by Li motivated by the desire to retain polar analytes reproducibly under highly aqueous conditions.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HV

Hai Vo

HAI VO
PRIMARY EXAMINER